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**MEMORANDUM REPORT NUMBER IT-A-02-02**

**Streamlined Processes and Better Automation  
Can Improve Munitions License Reviews**

**March 2002**

The Department of State (Department) has primary federal responsibility for reviewing and approving licenses for the export of munitions commodities from the United States. In the current information age, there are vast opportunities for applying technology to help streamline and improve the effectiveness of the licensing control process. Given increasing risks to information processing in today's environment, ensuring security in the licensing control process is also essential.

In response to requirements of the National Defense Authorization Act for FY 2000,<sup>1</sup> the Office of Inspector General (OIG) conducted a review of automation in the Department's munitions export licensing process. Specific objectives of our review were to (1) evaluate the processes and information systems used by the Department for reviewing munitions export license applications, including an assessment of systems connectivity with relevant Department bureaus and other federal agencies, (2) determine whether the licensing systems comply with federal and Departmental security assurance requirements, and (3) assess whether the Department is carrying out ongoing and planned upgrades to the licensing systems in a cost-effective and efficient manner. The purpose, scope, and methodology for our review are outlined on page 23.

**RESULTS IN BRIEF**

The munitions export licensing process is crucial to safeguard the foreign policy and national security interests of the United States. However, the process as managed by the Department's Office of Defense Trade Controls (DTC) is inefficient and unnecessarily burdensome on industry and other federal agencies involved in munitions license controls. OIG found that the process involves extensive use of manual and paper-based means to transfer information that must be re-keyed into computer systems by recipient organizations. In addition, the process lacks adequate tracking

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<sup>1</sup> Public Law 106-65, Title XIV, Section 1402, 113 Stat. 798 (2000); 22 U.S.C. 2778 nt (2001).

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<b>Abstract</b> <p>The Department of State (Department) has primary federal responsibility for reviewing and approving licenses for the export of munitions commodities from the United States. In the current information age, there are vast opportunities for applying technology to help streamline and improve the effectiveness of the licensing control process. Given increasing risks to information processing in todays environment, ensuring security in the licensing control process is also essential. In response to requirements of the National Defense Authorization Act for FY 2000, the Office of Inspector General (OIG) conducted a review of automation in the Departments munitions export licensing process. Specific objectives of our review were to (1) evaluate the processes and information systems used by the Department for reviewing munitions export license applications, including an assessment of systems connectivity with relevant Department bureaus and other federal agencies, (2) determine whether the licensing systems comply with federal and Departmental security assurance requirements, and (3) assess whether the Department is carrying out ongoing and planned upgrades to the licensing systems in a cost-effective and efficient manner. The purpose, scope, and methodology for our review are outlined on page 23.</p>		
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mechanisms from beginning to end, resulting in lost and misplaced applications, as well as additional time and effort. In part, these problems have resulted from DTC's internal information technology (IT) infrastructure, which is comprised of multiple systems that are independent of one another. DTC's lack of external connectivity further limits its ability to share data electronically with other organizations, such as the Department of Defense, also involved in reviewing and approving munitions licenses.

DTC recognizes the need to improve its munitions licensing processes and related information systems and is now developing plans to upgrade its IT capabilities. However, its approach focuses primarily on automating aspects of the existing process and does not include effective risk management strategies or adequate industry and agency input to help identify and meet requirements. Not revising business processes prior to investing in new technology creates the risk of merely automating inefficient ways of doing business. Failure to coordinate effectively with external export licensing organizations grappling with similar IT improvement issues results in duplication of effort.

Recent DTC initiatives are good first steps to improving automated support for the munitions licensing process; however, more needs to be done for the efforts to be effective. Building upon initiatives currently underway, DTC can broaden its efforts to include assessment of the existing munitions licensing process and identification of improvement requirements. Working with industry and other federal government organizations involved in the process, DTC can help develop a strategy for providing secure, integrated systems and processes to help meet these requirements. DTC has taken tentative steps toward improved collaboration; however, sustained interagency effort is necessary to improve automation, integrate, and streamline the federal munitions licensing process as a whole.

## **BACKGROUND**

Export licensing controls are vital to help protect the national security, foreign policy, and nonproliferation interests of the United States. Export licenses are controlled through two separate processes for dual-use and munitions, based on the intended use of the commodities involved. Dual-use commodities are those goods and technologies, such as supercomputers, encryption equipment, and nuclear-related items, which have both commercial and military purposes. Munitions commodities are services or items, such as firearms, aircraft, radar systems, and ammunitions, which are designated for strictly military or defense purposes.

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The Bureau of Export Administration at the Department of Commerce controls dual-use exports under the authority of the Export Administration Act of 1979, 50 U.S.C. 2401 et seq. (2000), as amended. The Export Administration Regulations, 15 C.F.R. Subchapter C (2001), published by the Bureau, outline export control policies, procedures for issuing export licenses, and laws and guidelines for enforcing dual-use exports. Within the Department, two organizations assist Commerce in the dual-use licensing process, with each reviewing specific types of commodities. The Bureau of Nonproliferation reviews dual-use license applications for national security and regional stability concerns. The Bureau of Economic and Business Affairs reviews dual-use license applications for crime control and foreign policy reasons.

Within the Department's Bureau of Political-Military Affairs, DTC controls the export of munitions under the authority of the Arms Export Control Act, 22 U.S.C. 2751 et seq. (2001). Although the Act authorizes the President to control the export of items included on the U.S. Munitions List, the President delegated this responsibility to the Secretary of State in 1977 by Executive Order 11958. DTC provides foreign policy advice to entities involved in manufacturing, exporting, and brokering defense articles and services. DTC also reviews and approves munitions license applications in accordance with the International Traffic in Arms Regulations, 22 C.F.R. Subchapter M (2001), which specifies procedures that persons subject to U.S. jurisdiction must follow in furnishing defense articles or services abroad. DTC has its own process for reviewing and approving munitions export license applications in-house, but also forwards many of these applications to other organizations internal and external to the Department for review.

Recent reports by organizations such as the Center for Strategic and International Studies<sup>2</sup> have expressed concerns over the efficiency of the federal government's export licensing control process, characterizing the process as unnecessarily complex and cumbersome. In recent years, OIG has had an ongoing role in evaluating the effectiveness of the Department's export licensing control processes, with a specific focus on munitions licensing. For example, in June 1999, OIG reported that the process for monitoring end-use of munitions export licenses could be improved by placing more emphasis on selection criteria for end-use monitoring, overseeing monitoring requests, and ensuring adequate technical expertise at overseas posts for conducting checks.<sup>3</sup> In March 2000, OIG reported that DTC did not systematically track foreign nationals listed on munitions export licenses.<sup>4</sup> OIG

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<sup>2</sup> Final Report, Study Group on Enhancing Multilateral Export Controls for US National Security, The Henry L. Stimson Center, Center for Strategic and International Studies, Washington, DC, April 2001.

<sup>3</sup> *Export Licensing* (99-CI-018).

<sup>4</sup> *Department of State Controls Over the Transfer of Militarily Sensitive Technologies to Foreign Nationals from Countries and Entities of Concern* (00-CI-008).

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determined that although licensing agreements may have been in place to protect against the release of sensitive information to foreign nationals, the risk of unauthorized disclosure persisted.

More recently, in March 2001, OIG found that DTC's commodity jurisdiction process for determining whether an export is subject to the U.S. Munitions List took an extensive amount of time—an average of six and one-half months.<sup>5</sup> OIG further reported that DTC did not have computer interfaces with other agencies involved in the commodity jurisdiction process or a computer database providing history on specific types of commodities. OIG recommended that DTC develop commodity jurisdiction notification procedures and deadlines and work with the Departments of Commerce and Defense to institute a secure, automated system for processing, referring, and storing historical export license data.

## **OVERVIEW OF THE CURRENT MUNITIONS EXPORT LICENSING PROCESS**

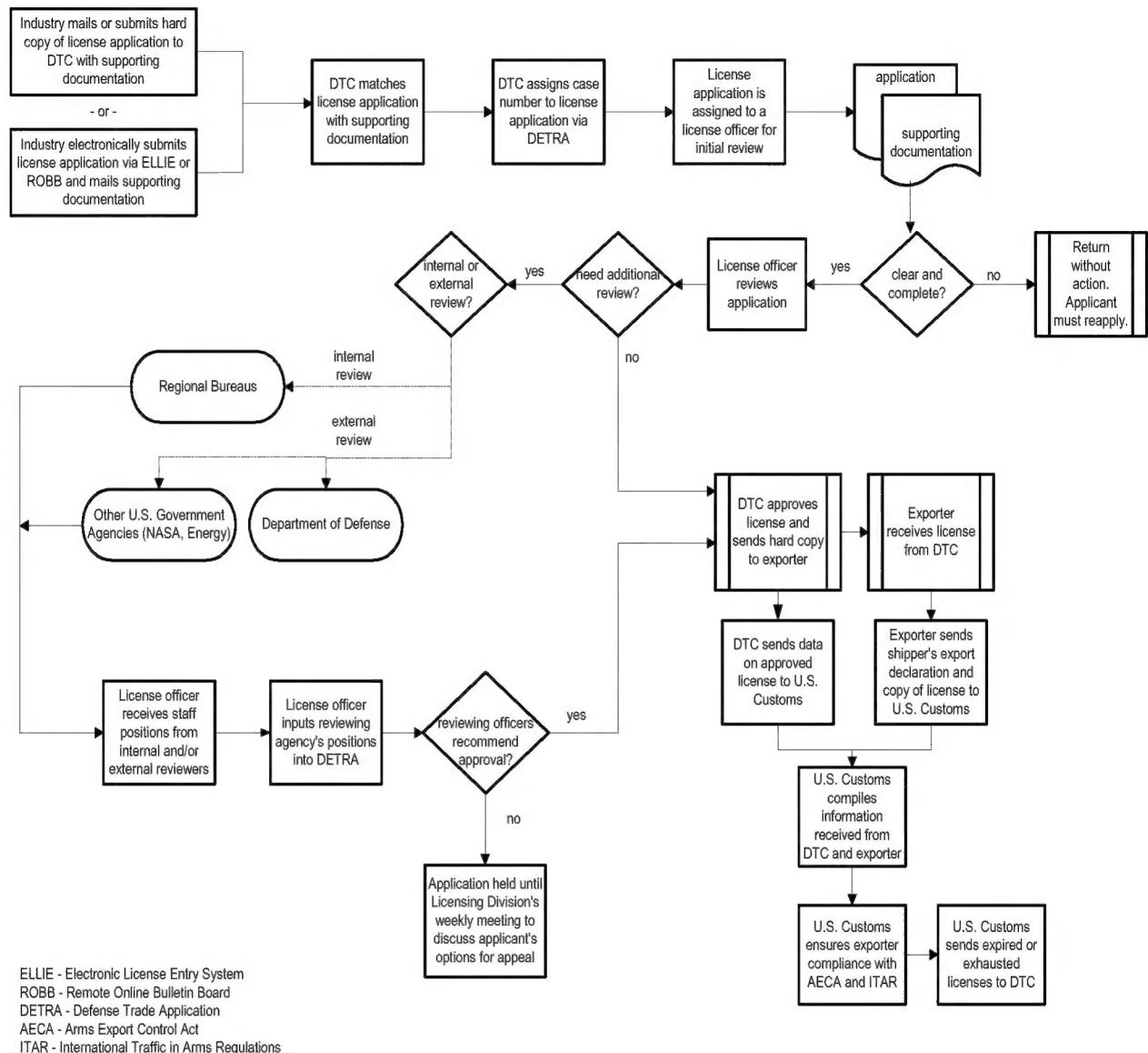
The U.S. process for controlling munitions exports involves license application review by a number of different Department and other federal organizations. These organizations are responsible for ensuring that exports are reviewed in accordance with U.S. foreign policy, national security, and nonproliferation objectives. Figure 1 provides a flow chart of the major steps in the process, which we also discuss in further detail below.

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<sup>5</sup> Review of the U.S. Munitions List and the Commodity Jurisdiction Process (01-FP-M-027).

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Figure 1: Illustration of the Current Munitions Export Licensing Process



Source: U.S. Department of State, Office of Inspector General

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The process begins with industry, which has several options for submitting a munitions export license application to DTC:

- Hard copy through either mail, courier, or hand-delivery;
- Electronically through the Internet using DTC's Electronic License Entry System; and
- Dial-up server to DTC's Remote Online Bulletin Board.

When a hard copy or electronic license application is received from industry, DTC transfers information from the license request to its Defense Trade Application system. This application, developed from a commercially available database system, is used for a variety of licensing and export compliance activities, including tracking license applications, scanning supporting materials, and querying license approval status. Each application is assigned a case number and then distributed to a licensing team within the office for review. The licensing officer assigned to the case performs an initial review of the application to determine whether it is accurate and complete. If the application is not complete or is not properly prepared, it is returned without action to the applicant. Complete applications are reviewed and approved by DTC without external involvement or referred to other Department or federal organizations for additional review. DTC staffs out about one-third of the approximately 45,000 license applications it receives annually for additional review and comment.

More than half of the license applications that DTC annually staffs out are sent to various bureaus and offices within the Department. These organizations include

- the Bureau of Democracy, Human Rights, and Labor;
- the Office of Regional Security Arms Transfer Policy;
- the Bureau of International Environmental Scientific Affairs; and
- the regional bureaus.

The organizations review the applications for policy, human rights, and environmental implications. The bureaus may also refer applications to country desks or other offices within the Department for further review.

External to the Department, the Department of Defense (Defense) plays a significant role in conducting national security reviews of munitions export license applications. Defense reviews about 14,000 cases of the annual licensing workload that DTC sends out for external review. DTC transfers boxes of these cases to the Defense Technology Security Administration (DTSA) every day.<sup>6</sup> A DTSA em-

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<sup>6</sup> In August 2001, Defense renamed the former Defense Threat Reduction Agency as the Defense Technology Security Administration.

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ployee creates an inventory of the license applications using a commercially available word processing application and places the inventory in a logbook. Cases are then input to Defense's Foreign Disclosure and Technical Information System and referred to licensing officers who determine how further to staff out the cases to Defense component agencies. After receiving position papers from all of the Defense components asked to review a case, DTSA compiles a final Defense position on a license application. DTSA transmits the final Defense position to DTC electronically via an unclassified Department server. In some instances, other agencies such as the Department of Energy (Energy) and the National Aeronautics and Space Administration (NASA) are also involved in munitions license application reviews, but to a substantially less extent than Defense.

DTC staff assistants maintain computerized files on each license application throughout the internal and external review process. When all positions are received on a given case, the staff aides enter the reviewers' positions into the Defense Trade Application and close the case, transferring it to the responsible licensing officer for final review and action. If reviewing agencies recommend that DTC deny a license, the case is held up until a weekly meeting at which it is determined whether an applicant should be allowed to protest under the Department's Appeal Review Process. However, if DTC receives recommendations from all reviewers that a license application should be approved, and DTC agrees with the recommendations, DTC issues the license to the exporter.

At the end of the license review process, DTC coordinates with the U.S. Customs Service (Customs) to ensure enforcement of approved licenses in accordance with requirements of the Arms Export Control Act and the International Traffic in Arms Regulations. DTC sends information on approved licenses to Customs on a daily basis. At the point of departure, Customs inspectors verify that exporters have valid licenses before goods are shipped overseas. When a license has expired or been exhausted, Customs returns the license to the Department in accordance with export control regulations.

## **CURRENT MUNITIONS LICENSING PROCESS IS FRAGMENTED AND INEFFICIENT**

The munitions export licensing process discussed above has been in place for decades. The intricate series of checks and balances inherent to the process has supported the federal government in meeting its objective of authorizing for export only those military goods and technologies that are not contrary to U.S. interests abroad.

As technology has evolved, DTC and related organizations have independently introduced automated systems and other technologies in an unintegrated manner to aid in carrying out their individual export licensing responsibilities. However, even while the ad hoc application of technology has facilitated export license review in certain areas of the process as a whole, it has also contributed to inefficiencies in a number of ways. The proliferation of unintegrated systems linked by manual and paper-based processes, re-keying of data, inadequate tracking, and a consequent lack of timeliness are deficiencies that we identified in the current munitions export licensing process. To avoid the information security risks that connectivity potentially imposes, DTC has chosen to maintain its current IT infrastructure instead of moving to a more interoperable environment that supports secure and more efficient electronic exchange of data among all participants in the review process.

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## **Lack of Systems Connectivity**

Office of Management and Budget Circular A-130 requires agencies to develop information systems that facilitate interoperability across networks of heterogeneous hardware, software, and telecommunications platforms. Currently, however, the systems that DTC uses to process munitions export license applications are independent of one another. For example, the Defense Trade Application—DTC's primary licensing system—has no connectivity with either the web-based Electronic License Entry System or the dial-up Remote Online Bulletin Board that DTC has provided for industry to submit license applications. DTC uses three different servers and networks to operate these systems. The Defense Trade Application is also not part of the IT infrastructure or connected to any other system internal to the Department. DTC coordination with the Department's other bureaus and offices is generally conducted through manual exchange of licensing data.

Other federal organizations also have their own unintegrated systems for processing munitions export license applications referred to them by DTC. Specifically, at Defense, DTSA has a Foreign Disclosure and Technical Information System for processing munitions license applications referred from DTC. Energy uses its Proliferation Information Network System to review export license applications. The Energy system is classified and does not allow for the direct transmittal of license decisions to other federal agencies. The Automated Export System is a joint venture between Customs and the Bureau of Census for electronic filing of shippers' export declarations and outbound manifests. Though a number of other federal agencies use the Automated Export System, DTC currently has no direct link to the

system. This lack of systems connectivity among the various agencies involved in export licensing contributes to a number of inefficiencies that we identified in the munitions export licensing process.

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## **Manual and Paper-based Processes**

The Paperwork Reduction Act of 1995, 44 U.S.C. 3501 et seq. (2001), requires agencies to acquire, manage, and use IT to improve mission performance and minimize the information collection burden on the public. However, much of the munitions licensing process remains largely manual or paper-based. DTC's coordination with the various participants in the license review process is characterized by the exchange of substantial amounts of hard copy information to help compensate for the lack of systems connectivity. For example,

- Industry: DTC requires that industry provide an original and eight copies of each license application and supporting documentation. Currently, 60 percent of all license applications are submitted to DTC electronically. The remainder are sent through the mail or hand-delivered. Even though applications may be electronically submitted, supporting documentation must still be provided in hard copy by mail, fax, or courier and matched with the electronic submissions—a labor, time, and resource-intensive exercise. Delays sometimes occur when exporters do not provide the supporting documentation within 30 days of the application as required. DTC staff then must follow up with telephone calls to locate the additional information.
- Department of State Bureaus and Offices: All license applications that DTC sends to other organizations within the Department for review are transmitted by interoffice mail, fax, or hand-delivery. For example, for a given case, DTC sends the bureaus a copy of the application and all supporting documentation, including detailed technical data that can range from a few sheets to hundreds of pages. Bureau officials indicated that much of this information is unnecessary for the types of review that they conduct. They generally stated that they require only country names, item descriptions, and end-user information to make license determinations. The excess data increases the workload of the bureaus that have to forward the paper copies to other offices within the Department for review.
- Defense: Each day a courier delivers to DTSA five copies of each application submitted to DTC, along with supporting documentation. DTSA then forwards the applications to various Defense components, such as the Military Services or engineering organizations that review over 90 percent of

the cases that DTSA receives. DTSA sorts the applications by technology area into nine groups, including electronic warfare, aircraft, and space and missile technology. The process could be more efficient if the sorting were done electronically. DTC could also reduce costs by transferring data electronically, eliminating the need for a courier each day.

- U.S. Customs: The Proliferation Prevention Enhancement Act of 1999, 13 U.S.C. 301 (2001), requires that, by March 2002, all exporters will use the Automated Export System for filing shipper's export declarations electronically to Customs. To date, over 80 percent of exporters are using this automated system, which has helped Customs increase efficiency, reduce the amount of paper documents it receives, and improve enforcement capability. Currently, Department regulations require exporters to present paper copies of shippers' export declarations at ports of exit. DTC representatives have stated that they are working with Customs to modify the Automated Export System to meet munitions export regulatory requirements so that filing of shipper's export declarations can be handled electronically.

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## **Re-keying of Data**

Given the paper-based exchange of data among participating organizations, the same license application information has to be input to computer systems multiple times. For example, DTC staff must re-key or scan the electronic license applications they receive from their stand alone application systems into the Defense Trade Application. DTC also contracts with a third party to enter data from hard copy mail applications into an electronic format. The third party contractor e-mails DTC with electronic versions of the paper forms.

Reviewers at Defense and Energy scan or type the data received from DTC into their own systems. DTSA officials told us that they have eight export control specialists who spend between five and ten minutes entering data into the Foreign Disclosure and Technical Information System to create a routine case. The time required for data entry increases to more than 30 minutes for agreements. Agreements are submitted in letter format rather than via standard application forms. Many of the agreements contain a great deal of legal terminology, making them more difficult and time-consuming to review. The number of agreements submitted has been increasing every year. Currently, 50 percent of the total license applications DTSA reviews involve agreements.

## **Lack of Tracking Results in Lost and Misplaced Applications**

Due to the multiple, unintegrated systems involved, there is a lack of transparency and a greater potential for error in the munitions export licensing process. Currently, each organization to which DTC refers a license for review has responsibility only for tracking the license from the time of referral until the time the license is returned to DTC. There is no single means of tracking throughout the process from initial submission to final disposition. For example, some bureaus use manual methods to track applications that they receive from DTC or forward to other offices within the Department for review. Other bureaus do not track the cases at all. Defense also has its own system for tracking export license applications, which uses an entirely different case numbering system from that of the Department.

Using the Electronic License Entry System, exporters can check the status of their license applications. For example, via the system, exporters can determine whether and when DTC received their applications or referred them to other organizations for review. They can also determine when reviews have been completed. A major limitation, however, is the fact that the system is not available to other bureaus and offices within the Department or external organizations involved in the reviews. In addition, exporters stated that the system does not always reflect what happens to a license after it has left DTC. They said that the system may indicate that a license application has been sent to a specific organization, although the intended recipient may have never received the application and may not even be aware of the referral. Industry and bureau representatives said that exporters tend to make frequent calls to reviewing organizations to check on the status of applications rather than rely on DTC's electronic licensing system. This lack of a tracking mechanism to support the entire review process results in errors and delays in license application processing. Additional time is required to process applications when they become lost or misplaced after DTC sends them through interoffice mail to other bureaus or offices. Bureau representatives whom we interviewed stated that they frequently receive applications that were intended for other organizations within the Department. They further stated that they often receive calls from industry or DTC asking about the status of license applications that they never received.

A December 2001 U.S. General Accounting Office (GAO) report provides greater detail about the conditions that cause delays in the licensing process.<sup>7</sup> Specifically, GAO reported that the Department lacks procedures to monitor the flow of

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<sup>7</sup> *Reengineering Business Processes Can Improve Efficiency of State Department License Reviews*, U.S. General Accounting Office (GAO-02-203, December 2001).

license applications as they move from one stage in the review process to the next. As a result, there is no assurance that agencies are conducting timely reviews of referred applications, that license application referrals are received when they are sent through the mail or by courier, and that applications that are lost or delayed are quickly identified. The GAO report concluded that hundreds of munitions applications were lost and thousands were delayed in fiscal year 2000 due to the lack of procedures and a system to track applications.

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## **Lack of Timeliness**

Overall, the lack of systems connectivity contributes to a lack of timeliness in the munitions export licensing process. As discussed above, voluminous shipments of hard copy license information and re-keying of data require added time. Time is also consumed by efforts to locate lost or misplaced applications. DTC's own statistics reflect the fact that munitions export license applications sent out for review take considerably more time than applications that remain within DTC for processing and approval. According to DTC's web page, the median processing time for cases that were sent out for review in September 2001 was 60 days compared to ten days for applications that were not sent out during the same period.

Similarly, a June 2001 GAO report on export license processing times at the Department of Commerce concluded that average processing times were similar for both agencies.<sup>8</sup> The report indicated that in FY 2000, the average processing time for munitions applications that DTC did not refer to other organizations was 23 days, in contrast to an average of 91 days required for applications that the office sent out for review. The report further stated that 4,550 applications out of a total of 15,512—nearly one-third—of the license applications that DTC sent out for review took over 90 days to be completed.

Further, industry representatives whom we interviewed emphasized that much of the responsibility for the license processing delays rests with DTC. The representatives agreed that the front-end of the process—the initial processing of license applications—needs improvement. For example, representatives said that when they submit applications in hard copy format, it sometimes takes days for DTC staff to log the applications into the Defense Trade Application. By using DTC's Electronic

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<sup>8</sup> *State and Commerce Department License Review Times Are Similar*, U.S. General Accounting Office (GAO-01-528, June 2001).

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License Entry System to check the status of their applications, they determined that it frequently takes DTC weeks to send license applications out for review. Further, according to one industry representative, DTC takes seven to ten days to input the status of a license application into the Electronic License Entry System after Defense has completed its review. Another industry representative said that at the end of the review process it might take several days for DTC to issue a license approval.

Additionally, in its December 2001 report, GAO stated that the delays within DTC at the beginning and end of the license review process were due to a lack of procedures to promote timeliness. Specifically, for FY 2000, GAO found that:

- 586 applications took over two weeks to be referred from a licensing officer to another bureau or office within the Department or to a federal agency for review;
- 1,861 applications took over two weeks to be referred within DTC from administrative personnel to licensing officers for a decision after receipt of recommendations from all external reviewing parties; and
- 330 applications took over two weeks to be sent back to the applicant after the licensing officer had made a decision to approve, deny, or return the application without action.

Of the 2,777 instances identified above, 674 took over four weeks to move from one point to the next with no substantive review of the applications occurring. GAO also identified 254 instances where applications were lost in the transfer from the licensing office to a reviewing office or agency.

DTC officials generally attributed the increase in munitions license processing times over the past few years to the loss of several experienced licensing officers, an increase in the number of license agreement applications that generally require more review time, and the transfer of licensing jurisdiction over commercial satellites from Commerce to the Department in March 1999. While we agree that these may be underlying causes, evidence provided indicates that the lack of systems connectivity also contributes to the longer processing times.

## **Systems Integration Would Improve Efficiency of the Licensing Process**

Many of the problems identified above could be resolved through improved automation and greater systems interoperability to support the munitions export licensing process. However, DTC officials oppose connectivity on the basis that there are fewer information security risks to unintegrated systems. While not classified, much of the munitions license data that DTC manages is proprietary in nature. Unauthorized disclosure or modification could have adverse impact on the industries involved, the integrity of the export control process, and the national security interests of the U.S. as a whole. With such arguments as a basis, however, DTC's information assurance strategy has been one of risk avoidance—remaining isolated to eliminate the potential for unauthorized access or malicious intrusion—rather than prioritization and risk management. Lacking systems interoperability, DTC has also preserved the ability to adapt its system quickly to meet internal objectives without having to consider the needs of other external agencies or organizations.

Even while justified in its concern for the information security of its licensing processes, DTC's strategy of retaining unintegrated systems to avoid rather than manage security risks is inappropriate in the current federal IT environment. For example, Office of Management and Budget Circular A-130 specifically requires that agencies “protect government information commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information.” The Department’s Systems Security Program Plan reinforces this principle of risk management in information security with the admonition that efforts to eliminate all risks facing information systems are not cost-effective.

DTC’s unintegrated systems approach is also outdated in light of the IT capabilities available in the current information age. Officials we interviewed suggested that interoperability could be achieved through institution of a single system accessible to all parties involved in the licensing process—from initial application through final disposition. Others stated that it could also be accomplished through a “system of systems”—a series of standards and integrated systems to support the electronic exchange of information among the various Department and other federal organizations involved in the munitions export license review process. Further, many have suggested a variety of security mechanisms—firewalls, encryption devices, and public key infrastructure strategies—that DTC could use to support interoperability and protect proprietary export licensing data from unauthorized access and disclo-

sure. Whatever the approach, electronic exchange of data would provide greater capability and efficiency in the munitions licensing process in terms of improved access, standardization, tracking, accuracy, and timeliness, as well as less duplication of effort.

In accordance with Government Paperwork Elimination Act<sup>9</sup> requirements, other federal agencies are increasingly moving to electronic sharing and exchange of data to accomplish mutual goals and overlapping missions. For example, recent legislation requires electronic access by the Department and the Immigration and Naturalization Service to criminal history records of visa applicants seeking admission to the United States to support counterterrorist activities.<sup>10</sup> Further, in the aftermath of the U.S. embassy bombings in Kenya and Tanzania, the Chief Information Officers of ten foreign affairs agencies are working to implement a web-based collaboration system that will improve information sharing among 40 agencies at overseas posts. The system is designed to support counterterrorism and protect U.S. foreign affairs personnel overseas. The Department is funding the prototype and pilot test of the system, with the Department's Chief Information Officer acting as its lead architect. If integrated systems can be established for sharing critical visa and foreign affairs information, connectivity can also be introduced to support secure processing of export licensing data that is only proprietary in nature.

## **DTC AUTOMATION IMPROVEMENT INITIATIVES FALL SHORT**

Recognizing the need for improvement, DTC has taken some first steps to automate the munitions export licensing process better. However, its strategy of automating certain aspects of the existing process without improving connectivity has only perpetuated existing inefficiencies. DTC has not assessed the level of information security needed to migrate to an interoperable systems environment and eliminate such inefficiencies. Not involving all munitions licensing organizations in its automation initiatives has also hindered DTC from identifying and addressing process improvement and systems requirements. Further, by working independently to modernize IT, DTC is duplicating improvement efforts underway at other agencies attempting to address similar issues. Recent DTC steps toward better collaboration are a step in the right direction. However, more could be done to coordinate on a government-wide basis to streamline the federal munitions export licensing process as a whole.

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<sup>9</sup> 44 U.S.C. 3504 (2001)

<sup>10</sup> Public Law 107-56, 115 Stat. 272 (2001)

## **Automating Existing Processes**

According to the Clinger-Cohen Act,<sup>11</sup> federal agencies are required to analyze and revise missions and processes before making significant investments in IT to help improve the efficiency and effectiveness of their operations. DTC recently instituted a number of initiatives to upgrade IT to support its licensing process. However, the approach taken has been primarily one of automating aspects of the existing process without first examining the underlying process and considering streamlining alternatives. DTC initiatives to date have included:

- Web Site Enhancement: DTC redesigned its web site to make it more user-friendly for exporters and ensure compliance with Section 508 of the Rehabilitation Act of 1973,<sup>12</sup> as amended, which requires that all federal departments and agencies, when developing, procuring, maintaining, or using IT, ensure access to individuals with disabilities comparable to people without disabilities.
- Dedicated Telecommunications Link: DTC is working to increase connectivity with Defense through installation of a T-1 line—a high speed digital connection capable of transmitting data at a rate of approximately 1.544 million bits per second. The T-1 line is to provide capability to send and receive very large text files, graphics, sounds, and databases instantaneously, and is the fastest means commonly used to connect networks to the Internet. Via the T-1 line, Defense will be able to transmit electronically to DTC its final dispositions on applications that are referred to them for review. DTC officials believe that this line will prove useful for rapid turnaround of cases involving high-priority munitions needed in the current U.S. counterterrorist effort.
- Contractor IT Assessments and Proposals: DTC hired an independent contractor to provide support in documenting and certifying its munitions export licensing systems, as well as providing recommendations for improvement, i.e., database conversions and front-end electronic submission. In addition, five contractors have provided strategies for enhancing DTC's capabilities. Another contractor is developing an electronic licensing prototype for DTC consideration.

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<sup>11</sup> Formerly the Information Technology Management Reform Act, Public Law 104-106, Division E, 110 Stat. 642 (1996).

<sup>12</sup> Public Law 106-398, 114 Stat. 1654, 29 U.S.C. 701 et seq. (2001)

Such automation initiatives are a step in the right direction. However, automating inefficient business practices is not likely to make them more efficient. Reengineering and streamlining work processes are essential before automating those processes and effectively transitioning to new electronic business systems.

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## **Security Concerns Not Fully Addressed**

In the current era of increasing threats to information processing operations, DTC must consider information security risks as it works to upgrade its export licensing systems. Office of Management and Budget Circular A-130 specifically requires federal agencies to incorporate security into their IT architectures to ensure effective support for agency business operations. In April 2001, as part of a Government Information Security Reform Act review, OIG disseminated a questionnaire to determine whether Department organizations were meeting IT security requirements. At that time, DTC officials reported that they had not completed a system risk assessment or an up-to-date determination of the level of security required to protect their Defense Trade Application. DTC officials also indicated that they had not developed a current IT security plan or tested or evaluated security controls.

In recent discussions, DTC officials told us about progress they have since made in addressing some of these information security deficiencies. For example, they hired a contractor to conduct a preliminary risk assessment as part of their system documentation effort. The purpose of the assessment was to identify and analyze vulnerabilities and potential threats to their web site, operational interfaces, and supporting infrastructure. As a result of the assessment, the contractor recommended a number of security improvements that DTC plans to implement while modernizing its IT infrastructure. Additionally, DTC officials said that they are working with the Office of Verification Operations within the Bureau of Verification to develop an IT security plan, which is scheduled for completion by March 2002. They are also coordinating with the Department's Public Key Infrastructure office, which has assigned an official to assist DTC on information protection issues. Further, DTC intends to have a contractor test information security controls as new systems are implemented.

However, DTC still needs to obtain an up-to-date determination of the level of security required to protect its export licensing system and the proprietary munitions license data that it supports. Once such a determination is made, DTC will have to work with all interested parties to agree on a security approach that can best protect integrated systems and exchange of licensing data across agencies. This will involve

close coordination to ensure that DTC's licensing system and security measures are compatible with those of industry and other federal agencies involved in the munitions license review process.

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## **Participants Not Adequately Involved in Defining Requirements**

Department regulations advise that internal organizations use the Managing State Projects methodology as a means of planning and implementing IT projects.<sup>13</sup> The methodology provides a framework for communicating and coordinating with users to define system and user requirements. However, DTC is not using the methodology to structure and control its project direction. In this context, DTC coordination with munitions licensing participants on upgrade initiatives has also been limited, affecting the office's ability to identify and address requirements.

For example, industry has not been adequately consulted to address its concerns about the licensing process. In 1992, the Department chartered a Defense Trade Advisory Group to provide feedback on munitions export issues and control processes. However, DTC has not used this group effectively to help improve its processes. Instead, DTC selects the issues that it wants the group to focus on and then does not always follow through to resolve them. As a result, there are still a number of industry concerns that DTC needs to address as part of its ongoing IT upgrade initiative.

Specifically, guidance and standards are needed to assist industry in submitting license applications to DTC. Industry officials told us that, because it is not clear what DTC wants, they submit different information each time they apply for an export license. Some exporters reference examples of prior license applications to determine what information is needed for new submissions and help ensure that they are complete. Officials from one industry organization stated that they developed their own manual to assist their employees in submitting license applications to DTC. In addition, officials from another industry organization said that they experienced difficulty meeting DTC license application requirements because of differences in technology. These officials said that they had to use older versions of technology in order to submit applications electronically to DTC.

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<sup>13</sup> Foreign Affairs Manual, Chapter 5, Section 620.

DTC is also not addressing problems that regional bureaus are experiencing in the license review process. For example, officials from the regional bureaus told us that they require only a limited amount of information to review an export license application. However, DTC sends them all license data received from an exporter. This lengthens and complicates the review process when bureau officials have to search through voluminous amounts of paper to locate information needed to formulate licensing determinations. DTC officials stated that the bureaus have not provided them with specific information to identify bureau interests and priorities in the export license review process. They also stated that they provide detailed explanations of the licensing process to Department bureaus and emphasized the importance of having adequate staff to review licenses.

As part of its IT enhancement initiatives, DTC also is not effectively working to meet the concerns of other federal agencies. For example, Defense officials indicated that they often receive insufficient supporting documentation when DTC refers license applications to them for review. As a result, Defense officials have to contact industry for additional information before they can conduct their reviews and formulate decisions. Additionally, reviewers at Energy stated that DTC could improve communications and coordination between their organizations. They stated that DTC officials do not readily respond to inquiries from Energy regarding license applications and do not send final dispositions to Energy on munitions cases that they reviewed.

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## **Duplication of Other Agency Efforts**

The Clinger-Cohen Act requires that agencies identify IT investments that could result in shared benefits or costs for other agencies or local governments. Further, Office of Management and Budget Circular A-130 requires that federal agencies cooperate on the use of IT to improve productivity, efficiency, and effectiveness and ensure that planned developments or improvements to existing information systems do not unnecessarily duplicate other IT initiatives. However, DTC is not taking full advantage of other federal organizations' efforts to improve the export licensing process. A number of these organizations are addressing some of the same issues that DTC faces, including standardization, tracking, electronic transmission of supporting documentation, and information security in the export licensing process. For example:

- Commerce is upgrading its Export Control Automated Support System to allow exporters to transmit license applications and supporting documentation electronically, while securing authentication and transmission of information using public key encryption.
- Defense is attempting to add technical specifications to its DTSA system and allow users to attach notes to license applications electronically sent to other Defense components for review.
- Energy frequently upgrades its Proliferation Information Network System to improve the automation of its review of dual-use and munitions export license applications.

DTC has the potential to save time, effort, and resources by working jointly with other agencies and capitalizing on the benefits of these ongoing improvement projects. In January 2001, Defense funded and established a U.S. Export System Program Management Office (USXPORTS) as an initial interagency effort to improve automation to support the export licensing processes. Specifically, the objective of the USXPORTS program is to design, develop, and deploy a modern electronic export license review system that will be interoperable among Commerce, Defense, State and other relevant government agencies. The ultimate goal is to support the export control process with easy and timely electronic access to pertinent export data, while protecting national security interests and industry proprietary data. However, DTC initially considered the effort an internal Defense initiative and did not participate.

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## **DTC Steps Toward Collaboration**

In recent months, DTC has taken some first steps to coordinate better with organizations both internal and external to the Department regarding improving automation of the export licensing process. For example, DTC has increased communications and coordination with the Bureau of Information Resource Management, which has responsibility for providing technical support and resources and identifying opportunities for IT improvement within the Department.

Externally, DTC officials improved their communications and coordination with the USXPORTS program office during the course of our review. For example, they recently agreed to commit contractors to work with the USXPORTS program to enhance connectivity between DTC and Defense systems.

## **RECOMMENDATIONS**

We recommend that the Assistant Secretary for Political-Military Affairs direct the DTC to coordinate with representatives from industry, the Department's bureaus and offices, and other federal organizations involved in the munitions export licensing process to carry out the following as a means of improving the end-to-end process and supporting technology:

1. Identify and document business requirements, including the need for electronic data exchange, among all participants involved in the munitions export licensing process;
2. Reengineer the process to address identified business requirements and promote efficient and timely license processing;
3. Develop and implement an effective, interoperable IT systems approach to support electronic data exchange in the reengineered munitions export licensing process, coordinating with the Department's Chief Information Officer on a continuing basis to ensure oversight of the planned IT systems initiatives and investments and their confluence with federal and Departmental requirements for managing IT; and
4. Assess information security risks in the reengineered munitions export licensing process and supporting interoperable systems environment and develop and implement an information security strategy to manage those risks effectively.

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## **Department Comments and Our Evaluation**

We obtained written comments on a draft of this report from the Bureau of Political-Military Affairs. In its response, the Bureau stated that it accepted the report's recommendations, while noting that several remedial activities have been underway since the time of OIG's review. The Bureau identified ongoing steps it believes are responsive to the report's findings and consistent with its recommendations. The Bureau also stated that beyond the recommendations, much of the report's analysis will serve as a basis for consideration of still further measures to strengthen the timeliness and overall efficiency of the munitions export licensing system.

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We appreciate the Bureau's responsiveness and proposed actions to address the issues presented in our report. The Bureau requested the continued close involvement of the OIG as its initiatives proceed in the weeks and months ahead. We agreed to provide such assistance on an ongoing basis. We have included the Bureau's comments in their entirety at Appendix A.

## **PURPOSE, SCOPE AND METHODOLOGY**

The National Defense Authorization Act (the Act) for FY 2000 requires the Inspectors General of Commerce, Defense, Energy, and State, in consultation with the Director of the Central Intelligence Agency and the Director of the Federal Bureau of Investigation, to evaluate and report annually, from FY 2000-07, on U.S. policies and procedures for the export of technologies and technical information to countries and entities of concern. In response to requirements of the Act, this year the Department's OIG conducted a review of automation in the munitions export licensing process. Specific objectives of our review were to (1) evaluate the processes and information systems used by the Department for reviewing munitions export license applications, including an assessment of systems connectivity with other relevant bureaus in the Department, as well as with other federal agencies, (2) determine whether the licensing systems comply with federal and Departmental security assurance requirements, and (3) assess whether ongoing and planned upgrades to the licensing systems are being carried out in a cost-effective and efficient manner.

To meet these objectives we first researched laws and federal guidance to identify applicable criteria for managing and ensuring security of information technology. We then met with managers and licensing officers in the Department's Office of Defense Trade Controls to determine whether they are meeting these criteria in managing and upgrading their systems and processes to support the munitions export licensing process. Representatives from selected industry organizations told us how they interact with DTC at the front end of the process to apply for export licenses. Officials from various bureaus and offices within the Department and representatives from the Defense Technology Security Administration told us about their processes and systems for reviewing licenses referred to them from DTC. Further, Customs officials at the back end of the process told us about their systems, procedures, and work with DTC to enforce approved licenses.

Further, we attended presentations at Defense, Energy, Commerce, and Customs to learn about issues they are grappling with and initiatives they have underway to improve IT and streamline portions of the export licensing process. Officials within the Department's Bureau of Nonproliferation also told us about their Tracker system for electronic submission and tracking of foreign exporters' license applications. In addition, we met with representatives of the USXPORTS program office at Defense to discuss their approach to developing an integrated export licensing system for the entire U.S. government. Officials in all of these organizations discussed with us their efforts to coordinate with DTC on their automation initiatives.

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Internal to the Department, we interviewed budget officials in the Bureau of Political-Military Affairs to learn about their role in funding and overseeing DTC's IT investments. Verification officials in the Bureau of Verification and Compliance told us about measures that they are taking to ensure that DTC is complying with information security requirements. Further, we met with officials within the Bureau of Information Resource Management to determine their coordination with and oversight of DTC's information and technology management operations. Finally, we met with representatives from GAO to discuss their review comparing the export licensing processes for dual-use and munitions licenses and their follow-up review focusing on DTC processes.

We conducted our review from May 2001 to December 2001 at the Department in Washington D.C. We conducted our review within the context of an overarching interagency OIG effort to assess export licensing controls automation, which will be reported on separately. We performed our work in accordance with generally accepted government auditing standards. Major contributors to this report were Frank Deffer, Sondra McCauley, Barbara Ferris, and Vandana Patel. Comments or questions about the report can be directed to Mr. Deffer at defferf@state.gov or at (703) 284-2715.



Appendix A  
United States Department of State

Washington, D.C. 20520

FEB 12 2002

INFORMATION MEMORANDUM

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TO OIG- Clark Kent Ervin  
FROM: PM - Lincoln P. Bloomfield, Jr. *LB*  
SUBJECT: Memorandum Report IT-A-02-20 "Streamlined Processes and Better Automation Can Improve Munitions License Reviews, February 2002"

I appreciate the opportunity to comment on the subject report. PM believes that the OIG audit team has done an excellent job in assessing and framing numerous and complicated issues. I regard the OIG audit team's work as conferring both potential benefits upon the PM Bureau and immediate obligations on me as Assistant Secretary.

In particular, I am attentive to the report's finding that expansion of PM's electronic licensing function requires timely action to ensure consistency with the intent of a number of Office of Management and Budget directives and several laws, among them the Clinger-Cohen Act; the Government Paperwork Elimination Act of 2001; and the Paperwork Reduction Act of 1995. Moreover, I appreciate and accept in full the report's Recommendations, noting only that several remedial activities are under way even since the period of OIG's review, as will be noted below. Beyond the Recommendations, much of the report's analysis will serve as a basis for PM's consideration of still further measures to strengthen the timeliness and overall efficiency of the licensing system.

With the preceding as the PM Bureau's summary response to the OIG report, I am grateful for the opportunity to highlight ongoing steps we believe to be responsive to the report's findings and consistent with its Recommendations. Where we have differences in perspective from the OIG report, these are noted below.

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Steps Underway to Redress Problems Cited in the Report

*Licensing Process Re-engineering*

Although no public announcement has yet been made, PM is in the early stage of an intensive process, initiated and directed by me, to consider process improvements aimed at optimal efficiency, speed, standardization, and ease of management of the State Department's munitions licensing process. I have carefully reviewed all studies, reports and memoranda submitted to the Administration to recommend process improvements in defense trade licensing. From that review I have developed a notional package of possible process improvement initiatives, currently numbering around 50. This package is being reviewed internally at PM. I anticipate that some items may come off the list while others will be added.

As this initial review is concluded, I intend to inform the Secretary of State of my proposal to conduct a comprehensive process review; subject to his guidance, I would intend to enlist the assistance of some industry experts via the Defense Trade Advisory Group (DTAG), PM's federal advisory committee for these matters, and involve counterparts at the Departments of Defense and Commerce, where appropriate, as well as the National Security Council Staff in an effort to refine and implement process reforms of many kinds. Indeed, the above entities are all aware of these plans and have pledged their cooperation with PM.

A range of issues spotlighted by OIG, such as interagency management of the licensing function, end-use monitoring for exported defense items and technology, the policy referral process for license applications, the commodity jurisdiction process, and timeliness as it relates to industrial competitiveness, to name several key aspects of our operation, will all be encompassed in the process re-engineering initiative now under development.

I also wish to underscore that PM's Office of Defense Trade Controls (DTC) takes very seriously its compliance and enforcement functions. DTC's operational relationship with the U.S. Customs Service, its overseas Blue Lantern end-use monitoring program, and particularly its responsibility to retain and produce information for use in administrative or criminal proceedings, impose special process and information management requirements.

*PM/DTC Information Technology Upgrade*

On a related front, there is already intense interest in the Administration, the Congress, and the U.S. defense industry in the upgrading of DTC's computer system. I am personally engaged in this effort as well because of the important national security and foreign policy considerations intrinsic to export licensing and compliance/enforcement activities. I also take this project to be PM's primary means of fulfilling the State Department's interests in promoting e-Government. I am pleased to report that a great deal of constructive activity has occurred, even subsequent to the conclusion of the OIG inquiries, that moves substantially in the direction of fulfilling the Recommendations of the OIG audit team:

- PM has now entered into intensive IT dialogue and activity with DoD, to include several meetings with USXPORTS technical experts and expanded use of a T-1 line to transmit to DoD both structured data and unstructured back-up materials for cases in support of Operation Enduring Freedom.
- DTC and VC/VQ (the office responsible for IT matters for the four bureaus reporting to the Under Secretary for Arms Control and International Security Affairs) have begun to implement a detailed workplan for day-to-day IT support of the defense trade controls function, as well as to address Government procurement and security issues
- DTC has now expanded its discussions about information security, including detailed discussions about systems architecture and electronic authentication with the Department's PKI Program Office.
- The Department's CIO, Mr. Fernando Burbano, has assigned personnel from IRM operations staff to work closely with DTC in a number of areas (e.g., process analysis and modeling, systems analysis and development, network communications, systems certification and accreditation requirements. and acquisition. PM is committed to carrying out this upgrade in full coordination and compliance with the Department's management.

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- A "proof of concept" contract has provided PM with a conceptual model of a fully electronic licensing system.

I believe we have firm basis for systems development this year. We propose to focus on information security and risk management, database conversion (from Microsoft Access), and the technical difficulties in handling voluminous hardcopy documentation of those munitions export cases that are referred to DoD and other offices/agencies. Using the electronic licensing "proof of concept" as a point of reference, we are already refining a "Concept of Operations."

The basic near-term achievement of fully electronic licensing, in a manner readily interoperable with the other government agencies involved in defense trade licensing, will in no way prejudice the ongoing process re-engineering initiative. At this time, our plans include business process enhancements for munitions export licensing review, some of which would be incorporated in our IT development. In the very near future, we anticipate proceeding with a contract to conduct a six-month electronic licensing pilot program (beta testing involving several defense firms, to include database conversion. PM will work closely with the private sector, IRM, and other offices and agencies to which munitions cases are referred.

Further information technology upgrades and management tools that are deemed desirable on the basis of the process re-engineering initiative will be contemplated as future enhancements, building on the electronic foundation being established at this time. Thus, PM fully intends that these initiatives fulfill the requirements of the Clinger-Cohen Act.

In sum, PM intends to fulfill the OIG recommendations through a refinement and enhancement of defense trade control processes, operational guidelines, management tools and collaborative IT enhancement. We will be pleased to keep the OIG team apprised of our actions and will welcome any and all feedback on our progress as part of the follow-up to the subject report. Indeed, I invite, and will appreciate, the continued close involvement of the GIG as these initiatives proceed in the weeks and months ahead.

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